

III. REMARKS

The Office Action dated February 22, 2008, has been received and carefully noted. The amendments made herein and the following remarks are submitted as a full and complete response thereto.

Claims 1-24 are pending.

At this time, claims 1, 6, 8, 13-17, and 23 are amended, and claim 5 is canceled. Applicants also submit a Replacement Drawing Sheet. Support for the amendment can be found in the specification and claims are originally filed. For example, claim 1 has been amended to incorporate the limitations of canceled claim 5. Claim 6 has been amended to recite proper dependency; claims 8 and 13 have been amended to correct the informalities cited by the Examiner; and claims 14-17 and 23 have been amended to conform to U.S. patent practice. In addition, the Replacement Drawing Sheet includes the label "Figure 3," which was inadvertently omitted. Applicants submit that no new matter has been added and respectfully request reconsideration and withdrawal of the pending objections and rejections.

Objections

The drawings were objected to, because the Examiner has stated that Figure 3 is not present in the drawings. Applicants submit that Figure 3 had been submitted with the original filing of the present application; however, the label "Figure 3" was inadvertently omitted. Applicants have submitted a Replacement Drawing Sheet to properly refer to Figure 3.

Claims 8 and 18 were objected to, because of the recitation of “SEQ ID N.” and “SEQ. N.” Applicants respectfully submit that claims 8 and 13, not 8 and 18 recite these terms. Applicants have amended claims 8 and 13 in a manner consistent with the Examiner’s suggestion.

In light of these amendments, Applicants respectfully request withdrawal of the pending objections.

Rejection under 35 U.S.C. § 112, second paragraph

Claims 1-24 were rejected under 35 U.S.C. § 112, second paragraph, for the asserted indefiniteness. Applicants traverse the rejection.

The Examiner has asserted that the phrase “a region of Obelin protein comprised between the first and the second calcium binding sites” is unclear and indefinite, because it is unclear where the “region” is. Applicants respectfully disagree that the claim language is unclear, but in order to expedite prosecution, Applicants have amended to claims to recite that the region is located between residue 42 and 122 of the Obelin protein. In light of this amendment, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-24 under 35 U.S.C. § 112, second paragraph.

Rejections under 35 U.S.C. § 112, first paragraph

Claims 1-24 were rejected under 35 U.S.C. § 112, first paragraph, written description, for the asserted failure to comply with the written description requirement.

The Examiner has asserted that although the specification adequately describes one species of a chimeric photoprotein, this is not adequate written description for the entire genus of chimeric photoproteins. Applicants respectfully disagree with the Examiner's assertion, but in order to expedite prosecution, Applicants have amended claim 1 to limit the photoprotein to the Clytin photoprotein. Therefore, Applicants respectfully request withdrawal and reconsideration of the rejection of claims 1-24 under 35 U.S.C. § 112, first paragraph, for the asserted lack of written description.

Claims 1-24 were rejected under 35 U.S.C. § 112, first paragraph, for the asserted failure to comply with the enablement requirement,

The Examiner has asserted that claims 1-24 are so broad as to encompass any chimeric photoproteins obtained by replacing the claimed region of Obelin protein with any corresponding region of the recited photoproteins. Further, the Examiner has asserted that "not all structurally different 'chimeric photoproteins' would be able to undergo enhanced bioluminescence compared to bioluminescence of the wild-type Obelin protein.

Applicants respectfully disagree with the Examiner's assertions. Applicants note that claim 1 has been amended to limit the photoproteins to the Clytin photoprotein, and to limit the region of the Obelin protein sequence to a region between residue 42 and 122.

Applicants submit that the Patent Office bears the burden of showing nonenablement. See *In re Wright*, 27 USPQ2d 1510 (Fed. Cir. 1993). "[E]nablement requires that the specification teach those in the art to make and use the invention without 'undue experimentation.' ... That some experimentation may be required is not

fatal; the issue is whether the amount of experimentation required is ‘undue.’” *In re Vaeck*, 20 USPQ2d 1438, 1444 (Fed. Cir. 1991) (emphasis in original). Experimentation, even if considerable, is not “undue” if it is routine or if the specification provides a reasonable amount of guidance as to the direction in which the experimentation should proceed. See *In re Wands*, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

Applicants further submit that the specification provides adequate guidance for one skilled in the art to carry out the present invention. In addition, Applicants submit that the presently amended claims now reflect a chimeric photoprotein obtained by replacing a region located between residue 42 and 122 of the Obelin protein sequence with a corresponding region of the Clytin photoprotein. Applicants submit that those skilled in the art would be able to generate chimeric photoproteins with enhanced bioluminescence without undue experimentation using the guidance provided in specification.

For at least the above reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-24 under 35 U.S.C. § 112, first paragraph.

IV. CONCLUSION

Applicants respectfully submit that this application is in condition for allowance and such action is earnestly solicited. If the Examiner believes that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below to schedule a personal or telephone interview to discuss any remaining issues.

In the event this response is not timely filed, the Applicants hereby petition for an appropriate extension of time. The fee for this extension, along with any other additional fees which may be required with respect to this response, may be charged to Deposit Account No. 01-2300, referencing Attorney Docket No. 100506-00025.

Respectfully submitted,



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